

### Remarks

The application has been carefully reconsidered in view of the Office Action of January 29, 2002. In this Amendment, amendments have been made to the claims in response to the rejection made under 35 U.S.C. § 112 and to ensure compliance of the claims with the second paragraphs of § 112.

In regard to the criticism of the use of the term "about" in the claims, applicants would respectfully submit that the use of the quoted term does not render the claims indefinite. In this regard, attention is respectfully invited to MPEP §2173.05(b), which addresses the use of the term "about" without running afoul of the provisions of § 112. It is also noted that the term "about" is commonly used in claims of patents relating to and involved in the polypropylene art. For example, U.S. Patent No. 5,560,948 uses "about" in referring to molecular weight: "a mean molecular weight (MW) from about 2500 to 6500" (claim 3), to temperature "a softening point from about 80° to 180°C" (claim 6), and to melt flow index "from about 0.5 to 15 g/10" (claim 9). Similar usage of the term "about" is found in many other issued patents. For example, "about 0.5 to 50% by weight" (claim 6 of Patent No. 5,367,067) and the use of the term "about" in connection with molecular weight range (Patent No. 4,510,004). Nevertheless, in order to expedite the prosecution of this application to an early conclusion, the term "about" has been deleted from applicants' claims.

Similarly, with respect to the term "effective heat seal," applicants' would respectfully submit that the meaning of the quoted expression is clear and would immediately be understood by one skilled in the art. Any doubt of the subject would be erased when the term is considered in light of applicants' specification. Attention in this regard is respectfully invited to the paragraph bridging pages 10 and 11 of applicants' specification. Nevertheless, the term

"effective" has been deleted from claims 1, 9, 10, 31, and 32 in order to expedite prosecution of this case.

*No it doesn't?*  
It is respectfully submitted that the phrase "a corresponding thermoplastic polymer" would clearly be understood by those skilled in the art. Again, any uncertainty on this point is avoided when one considers applicants' specification and particularly the second full paragraph of page 10 of the specification. Accordingly, it is respectfully submitted that the claims are in full compliance with the provisions of the second paragraph of 35 U.S.C. § 112.

The rejection of claims 1, 2, 4, 6-12, and 27-32, as anticipated by Isaka et al is respectfully traversed. All of applicants' claims have now been amended to direct the claimed subject matter to the preferred embodiment of the invention as involving a biaxially oriented polyolefin film in which the core layer and the heat sealing surface layer are coextruded. Support for the subject matter of the claims as now amended is found in applicants' specification in the first full paragraph of page 11, in the description of the invention with reference to Figures 1 and 2 as found on pages 11-14 of the specification and in the examples. In addition, each of applicants' claims requires an enhancement in interlayer bond strength between the surface layer and the core layer (as measured against an isotactic polypropylene homopolymer) of at least 15% in independent claim 1, 50% as specified in independent claim 21, and 30% as set forth in independent claim 32. The patent to Isaka et al fails to disclose an enhancement in interlayer bond strength as required in applicants' claims. In fact, the reference simply contains no disclosure respecting the interlayer bond strength between the surface and core layers of the reference. Isaka et al does disclose the use of an ethylene/propylene copolymer which preferably has an ethylene content of 2.5 to 6% by weight in order to provide good heat seal ability. This is generally consistent with the data shown in Figure 3 of the reference, which indicates an

enhancement in heat seal strength occurring at an ethylene content of about 3.5-4.0%. The reference goes on in the last full paragraph of column 6 to suggest a preferred ethylene content of 3.6 to 10 wt.%.

As noted previously, the Isaka et al reference contains no disclosure respecting the enhancement of interlayer bond strength. To the extent the rejection is based upon Example 10 of Isaka et al and an assessment that this example would inherently produce enhancement in interlayer bond strength as required in the claims, applicants would respectfully disagree. As noted in applicants' amendments, with respect to MPEP § 2112 and the cases cited therein, it is well established that, in order to support an alleged inherency of claimed subject matter, it must be shown that the inherency is necessarily present and not a mere possibility. Here, there is no such showing and particularly with respect to Example 10 of Isaka et al, there is clearly no reason to expect an enhancement in interlayer bond strength as required in applicants' claims. In this respect, contrary to the subject matter called for in applicants' claims, Example 10 does not disclose a multilayer biaxially oriented film, nor does it disclose coextruded core and surface layers as now specifically set forth in the claims. In Example 10, the base layer (A) is extruded and oriented in the machine direction. The layer (B) is separately formed and applied to the machine direction oriented base layer, and the composite layers are then stretched transversely. Thus, the result is not a multilayer biaxially oriented film, as specified in applicants' claim, nor does it involve a coextruded multilayer film as required in the claims.

The rejection of claim 1, 2, 4, 6-12, and 27-32 under 35 U.S.C. § 102(e) as anticipated by Patent No. 6,063,482 to Peiffer is respectfully traversed. This rejection as set forth in the Office Action appears to rely upon the same reasoning as set forth in Paragraph 6 of the Office Action of August 27, 2001, and applicants' respectfully refer to their previous comments respecting the

Peiffer reference as set forth in the Amendment dated December 19, 2001. Specifically, it will be noted that the patent to Peiffer is directed to a polypropylene film that may be single ply or multiply which is configured to have improved tear propagation resistance. To the extent that Peiffer involves a multilayer film, it does not call for a surface layer capable of forming an effective heat seal as required in each of applicants' claims. In fact, Peiffer makes absolutely no reference to heat seal ability of the surface layer of a multilayer film.

The patent to Peiffer is also devoid of any reference to interlayer bond strength. Further, the patent to Peiffer contains no disclosure of a multilayer film incorporating a core layer that is treated in any respect to enhance the interlayer bond strength. Clearly, Peiffer does not disclose the use of an ethylene/propylene copolymer as a core layer in which the ethylene content is 1 wt.% or less as specified in claim 1 or within the other low levels of ethylene content as specified in claims 4, 6, 7, 28, and 32. In fact, in Peiffer, where ethylene is present in a multilayer film, it is present in a top layer and not in the base layer. Where only a single-ply film is involved, ethylene may be present, but as pointed out in applicants' response of June 11, 2001, in much broader and greater concentrations than employed in the core layer of applicants' invention. Further and as noted previously, the nature of the products, in which the improved tear propagation resistance achieved in Peiffer is employed, would include products such as tapes and insulating materials. Clearly, there would be no reason for such products to have a heat seal ability characteristic as specified in applicants' claim.

To the extent that the Examiner relies upon an inherency argument with respect to either the heat-sealing characteristics of the surface layer or the interlayer bond strength, applicants would again respectfully invite the Examiner's attention to the above-discussed MPEP § 2112. It

is again noted that inherency cannot be established by a mere allegation that a particular characteristic may possibly be present. Thus, the statement found in MPEP Section 2112:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. (Emphasis original.)

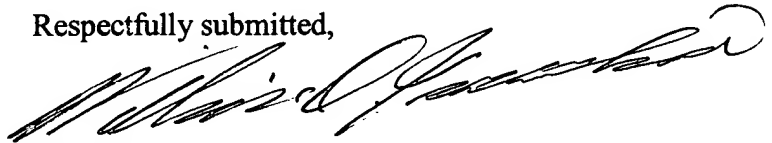
is fully applicable here. This is particularly so in the present case since there is no disclosure in Peiffer of a multilayer film employing a core layer involving an isotactic propylene copolymer containing no more than 1 wt.% ethylene.

The rejections of claims 1, 2, 4, 6-12, and 27-32 as obvious over Isaka et al or Pieffer et al in view of Agarwal are respectfully traversed. Applicants would respectfully submit that there is no basis, absent applicants' own teaching, to combine the teachings of Agarwal with either of the primary references. The patent to Agarwal, as it is understood, does not appear to disclose that the layer thicknesses of multilayer films are result-effective variables be it water vapor or moisture vapor transmissibility or other facts. Agarwal et al appear to propose the use of polymers having very low crystallinity, ranging from a high value of 50-70% down to a low value of 10-30%. The polymers involved may be homopolymers or copolymers of ethylene and higher alpha olefins, such as hexene. Where ethylene is involved as a copolymer, the minimum ethylene content appears to be about 2% or higher, significantly greater than the maximum ethylene content involved in applicants' invention. Thus, even if the teachings of Agarwal were to provide a basis for routine experimentation to optimize ethylene content, the experimentation would be conducted at ethylene levels well above those called for in applicants' claims. Thus, to the extent that one of ordinary skill in the art might attempt to combine the teachings of Agarwal with the primary references, the result would be to lead one skilled in the art away from the claimed subject matter.

For the reasons advance above, it is respectfully submitted that all of the claims herein are in compliance with the requirements of 35 U.S.C. § 112 and are patentable over the prior art. Accordingly, an early reconsideration and allowance of this application is respectfully requested.

A check in the amount of \$400.00 is enclosed to cover the fee for a two-month extension for response to the Office Action of January 29, 2002. The response was due April 29, 2002, but with the two-month extension, the response is now due by Monday, July 1, 2002. The Commissioner is hereby authorized to charge any further fee, which may be due in connection with this Amendment, or to credit any overpayment to Deposit Account No. 12-1781.

Respectfully submitted,



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Attachment to Response (Amendment) to January 29, 2002, Office Action:

In the Claims

Please amend the claims as indicated:

1. In a multi-layer biaxially oriented polyolefin film, the combination comprising:
  - a. a surface layer of said film comprising a thermoplastic polymer capable of forming [an effective] a heat seal with a corresponding thermoplastic polymer upon heating to an elevated temperature and compression; and
  - b. a core layer contiguous to and coextruded with said surface layer, said core layer having a thickness greater than said surface layer, said core layer formed of ethylene-propylene copolymer having an isotactic structure and containing ethylene in an amount of no more than [about] one weight percent which is effective to provide an inter-layer bond strength with said surface layer which is at least [about] 15 percent greater than the inter-layer bond strength between said surface layer and a film formed of isotactic polypropylene homopolymer.
2. The combination of claim 1, wherein said core layer has an average thickness within the range of [about] 5 microns to 150 microns and said surface layer has a thickness within the range of [about] 0.3 microns to 80 microns, said surface layer having a thickness less than said core layer.
4. The combination of claim 1, wherein said ethylene-propylene copolymer contains ethylene in an amount between [about] 0.05 weight percent and [about] 0.8 weight percent.

6. The combination of claim 1, wherein said ethylene-propylene copolymer contains ethylene in an amount between [about] 0.1 weight percent and [about] 0.2 weight percent.

7. The combination of claim 31, wherein said core layer formed of ethylene-propylene copolymer contains ethylene in an amount between [about] 0.5 weight percent and [about] 0.7 weight percent.

9. The combination of claim 8, wherein said third layer comprises a thermoplastic polymer capable of forming [an effective] a heat seal with a corresponding thermoplastic film upon heating to an elevated temperature and compression.

10. The combination of claim 8, wherein said third layer constitutes a second surface layer capable of forming [an effective] a heat seal with said surface layer upon heating to an elevated temperature and compression.

28. The combination of claim 9 wherein the ethylene-propylene copolymer of said core layer contains ethylene in an amount within the range of [about] 0.05-0.8 wt.%.



31. In a multi-layer biaxially oriented polyolefin film, the combination comprising:
- a. a surface layer of said film comprising a thermoplastic polymer capable of forming [an effective] a heat seal with a corresponding thermoplastic polymer upon heating to an elevated temperature and compression; and
  - b. a core layer contiguous to and coextruded with said surface layer, said core layer having a thickness greater than said surface layer, said core layer formed of ethylene-propylene copolymer having an isotactic structure and containing ethylene in an amount of no more than [about] one weight percent which is effective to provide an inter-layer bond strength with said surface layer which is at least [about] 50 percent greater than the inter-layer bond strength between said surface layer and a film formed of isotactic polypropylene homopolymer.

32. In a multi-layer biaxially oriented polyolefin film, the combination comprising:
- a. a surface layer of said film comprising a thermoplastic polymer capable of forming [an effective] a heat seal with a corresponding thermoplastic polymer upon heating to an elevated temperature and compression; and
  - b. a core layer contiguous to and coextruded with said surface layer, said core layer having a thickness greater than said surface layer, said core layer formed of ethylene-propylene copolymer having an isotactic structure and containing ethylene in an amount between [about] 0.3 and [about] 0.5 weight percent which is effective to provide an inter-layer bond strength with said surface layer which is at least [about] 30 percent greater than the inter-layer bond strength between said surface layer and a film formed of isotactic polypropylene homopolymer.